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AUTHOR Wiesenberg, Faye; Hutton, Susan
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ABSTRACT

Two computer-mediated courses were developed and taught in an innovative master of continuing education program at the University of Calgary (Canada): Career Development in Organizational Settings and Leadership in Organizations. Within the context of the computer-mediated communication (CMC) system, the courses were structured in conferences depicted and accessed from student computer desktops. Instructor issues were related to the process of teaching/learning (amount of time required to deliver courses, sense of "connection" to and between students, student reactions to assignments and learning activities, and how students, instructors, and administrators dealt with technical problems) and content of courses (breadth and depth). Student issues were related to process (value of exploring each topic in relation to self, lack of "real" communication, struggle to articulate "theories-in-use," democratizing effect of the CMC classroom, and frustration with technical problems) and content (struggle to understand much broader definitions of key concepts, amount of time, and relevance of the courses). The most unique challenges in the CMC classroom were technical. Building a "learning community" was of critical importance in creating a successful virtual classroom. Recommendations were made for building successful computer-mediated learning environments. The abbreviated course syllabi is appended. Contains 22 references.) (YLB)

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THE UNIVERSITY OF CALGARY

Teaching a Graduate Program Using Computer Mediated Conferencing Software

By: Faye Wiesenberg, Ph.D.

and Susan Hutton, Ed.D.

The Faculty of Continuing Education

University of Calgary

2500 University Drive N.W.

Calgary, Alberta

Canada

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Teaching a Graduate Program Using Computer Mediated Conferencing Software

Abstract

This article summarizes the authors' experiences developing and teaching the first two computer mediated courses in an innovative Master of Continuing Education program at The University of Calgary in Alberta, Canada. Background information on this graduate program, a brief description of the course development process, and more detailed discussion of issues that arose in the delivery phase are presented here. The article concludes with the authors' reflections on their experiences as they relate to the benefits and challenges of computer mediated instruction cited in the literature, and recommendations for building successful computer mediated learning environments.

Introduction

Although computer mediated instruction is a relatively new mode of learning and teaching, several studies already point to a number of benefits and challenges associated with teaching in this medium (Burge, 1994; Harasim, 1987; Hiltz, 1990; McCreary & Van Duren, 1987). Some of the key benefits indicated are: a) convenience, as learners chose when to participate without having to worry about the usual barriers/disadvantages to enroling in a formal graduate program, such as disruption to family/work life, geographical distance, transportation costs; b) promotes a higher level of student to student as well as student to instructor interaction, as the learning environment is typically experienced as more "democratic" and "less intimidating" for the non-active learner and immediate access to

instructors is easier; c) fosters a higher quality of learning, as non-synchronous communication allows time for students to think, especially more critically, before contributing their thoughts, to tap into the collective knowledge of the class, and to develop their own "voice" on-line; and d) allows students a number of resources on-line, a supportive structure for student contributions, as well as equalizing participation amongst classmates (Gerein, 1995).

In contrast, some of the key challenges include: a) technical difficulties that are often unanticipated, out of the students' control and therefore very frustrating, b) more time consuming than face-to-face communication, as reading text takes longer than listening to voices, as students may often feel overwhelmed by the volume of information posted; c) interpreting communications without the benefit of visual cues, which can lead to misinterpretation of messages; and d) difficulty in tracking the flow of "conversation" on particular topics (Gerein, 1995). Overall, the research concludes that learning results can be superior in the virtual classroom for well-motivated and well-prepared students who take advantage of the opportunities provided for increased interaction with professors and other classmates (Hiltz, 1990). Unfortunately, little has been written about instructing in a computer mediated communication "virtual" classroom. What is known, however, is that traditional teacher-centred approaches do not function well in this environment, and that student-centred and "collaborative" ones do (Kaye, 1992). This is an area rich with research potential. This article will conclude with the authors' experiences in relation to the benefits and challenges of computer mediated instruction drawn from the research literature.

Background to the Master of Continuing Education

Computer mediated communication (CMC) is the primary distance delivery technology of a new Master of Continuing Education (MCE) program at the University of Calgary in Alberta, Canada. This medium was chosen because of its capability to meet the educational needs of the MCE program, as well as its affordability for the University and its students (Kirby & Garrison, 1995). The goal of this program is to create graduates who have a broad and critical perspective of the field of "workplace learning", an appreciation of the linkages between theory and practice, a range of intervention skills that they can bring to organizations as workplace learning specialists, and an understanding of themselves and others as individual, team and organizational learners. Students typically come to this program with a background in organizational consulting or workplace learning (ie. in the training and development or human resources development operations, or in line management positions within organizations), or in adult education roles in government or non-government agencies. Students will typically be supported in the role of student by their employer if they are not self-employed, and usually access the CMC courses via their office computers or home work stations. An important aspect of the MCE program is that students move through the program in cohort groups, which tends to increase student commitment to their program of study, thereby reducing dropout rates (Tinto, 1975).

The two-year, six full course program begins with a three week spring institute held at the university campus. This Spring Institute includes the first two core half courses in adult learning theory and practice from an individual perspective. The fall and winter terms then

offer one core and one elective half course, both taught by CMC. The second year repeats the three week spring institute format, offering two core half courses from an group/organizational and societal perspective, and the fall and winter terms offer the final four half courses by CMC. The final integrative project is two half courses that students take in their second year by CMC. The final oral comprehensive may be done either face-to-face or by distance, depending on the location and preference of the student.

The MCE was given final approval by the University of Calgary's General Faculties Council in the spring of 1994, after five years of development and approval by the Faculty of Continuing Education (see Garrison and Kirby, 1995, for a full discussion of this process). It constitutes the first graduate program developed and delivered by this faculty, and is considered one of the major future forms of graduate education for this university. With such a high profile, it is being closely monitored and evaluated by the entire university community resulting in a fair amount of pressure to succeed.

Course Development

The first two computer mediated courses, "Career Development in Organizational Settings" and "Leadership in Organizations", were developed using an interactive model of program planning based on well accepted design methods and adult learning principles (Barer-Stein & Draper, 1988; Brookfield, 1986; Caffarrella, 1994; Cook, 1991; Knowles, 1980; Mills, 1991; Schlossberg, Lynch & Chickering 1991; Sheridan, 1989; Sheridan, Byrne & Quina, 1989; Vella, 1994). The authors' began the design process by collecting basic data on the students,

developed course objectives from this and other relevant data, developed learning objectives consistent with the program's purpose and designed instructional plans that they anticipated would meet the goals of the MCE program, the specific courses in question, as well as the needs of the students at this point in their program. Another critical factor considered in the design process was students' current level of skill using computer mediated learning systems. Both authors are experienced in the development and delivery of graduate level courses in the topics in question, but neither had taught such courses using CMC before. Data about the student group were compiled from the students' MCE application files, discussions with students during the spring institute about their learning/career goals, extensive examination of the current research literature, and consultations with colleagues experienced in using the software system (FirstClass) to be used in the MCE courses (Wells, 1995; Ponting, 1995). Overall, it was determined that students came to these two CMC courses with little formal or in-depth knowledge of either course topic and had probably spent a minimal amount of time examining their own personal/professional experiences on either.

Subsequently, the course objectives were to provide an introduction to both topics by assisting students to: 1) understand and be able to distinguish between the main traditional and current theoretical approaches to each topic; 2) understand in detail one foundational theoretical approach; 3) critically examine the various viewpoints in the field on each topic; 4) begin to develop their own "theory-in-use" regarding each topic; and 5) begin to apply their newly acquired theoretical knowledge to their respective at-home organizational

settings (i.e., move from theory to practice). Each course's student learning objectives were tailored to the two topics and reflected each authors' previous experiences teaching these topics (see Appendix A for abbreviated course syllabi).

Designing the instructional plan was the most challenging aspect of the course development process, as neither author had previous experience teaching in a "virtual classroom". Both reviewed the sparse research literature available and approached the new experience with much anticipation. The fact they had worked together on other projects and developed a collaborative collegial relationship was an asset, as they consulted frequently with each other, as well as with other faculty involved in the MCE program. Overall, the instructional approach was to move students from an individual to organizational context, from the examination of their own personal experience with each topic to the examination of espoused theory of experts on each topic, to the articulation and application of their evolving "theory-in-use" to their own organizational setting. Within the context of the CMC system, the courses were structured in conferences depicted and accessed from students computer desktops, where visually-relevant icons labelled according to the modules within each course were presented. Within each module specific topics for weekly discussion were contained in separate computer conferences. Several files within each conference were created for sub-topics that arose and to better organize the volume of "conversations" that emerged over the four months of the course offering.

Course Delivery

As the first graduate program ever offered by the Faculty of Continuing Education, as well as the first courses ever offered using CMC, there were a number of important additional course goals underlying the delivery of these two courses:

1. to ensure that both students and instructors were proficient learning and teaching with the CMC software,
2. to ensure that students, instructors and administrators were able to deal efficiently and effectively with technical problems as they arose,
3. to become skilful in using a "student-centred" or "collaborative" teaching approach (instructors), as well as a "self-directed" learning style (students), and
4. to ensure that students' learning was of sufficient breadth and depth to constitute "graduate" level work.

This article will limit its discussion to the last two points only, and focus on the process and content issues faced by the instructors and the students as they both endeavoured to create a "learning community" that would aid in the accomplishment of these two goals.

A. Instructor Issues

The Process of Teaching/Learning

These issues fell into four categories: 1) the amount of time required to deliver the courses, 2) the sense of "connection" to and between students, 3) student reactions to the assignments and learning activities in each course, and 4) how students/instructors and

administrators dealt with the technological problems that arose over the term. Each of these issues is detailed next.

1) The amount of time required to deliver a course using a CMC system was twice (for the elective course with fifteen students) or three times (for the core course with twenty-four students) that of a regular face-to-face classroom environment. This was due to the additional time needed to construct and read messages. The additional time taken to construct messages was necessary because the lack of non-verbal cues meant that messages had to be very carefully worded to avoid misinterpretation. In order to be clear and concise, both students and instructors required more time to reflect and edit their responses than they would normally take within a real classroom environment, where one has the opportunity of clearing up misunderstandings as they occur. In addition, there was a sense of vulnerability or exposure from posting the written word versus the spoken word. Students and instructors felt a heightened sensitivity when their written words were there for many days for all to critique. For example, one student noted that "I was surprised by the anxiety that I experienced when preparing input, especially the first framing of a question...think it has to do with having your thought hang out there for a week." Another student said "I am finally getting to the place where I am worrying less about what others think than about (my submissions)". Clearing up one misunderstanding on-line could take days of dialogue and even then not necessarily result in as clear a communication as one ten-minute, face-to-face interaction. The resulting high volume of messages that students

were required to read and respond to every week (which varied from a low of three in the elective course to 50 in the core course) required many hours of on-line time.

2) The sense of "connection" to and between students became a major pre-occupation of those students who were not totally at ease with the CMC system. Some students in the Calgary area met in "learning groups" to address their need for face-to-face contact; others phoned the instructors or each other to establish connection through "voice contact". The facilitation of "interactive dialogue" was difficult given the built-in limitations of the computer medium. Students appeared to present their ideas well but had difficulty synthesizing the contributions of one or more other students by bringing together what had been said by others to form a new insight, question or conclusion. There appeared to be insufficient ability to understand others' comments and to remember what had already been said in order to synthesize learning. For example, many provided comments of this type: "...a change I can suggest is that we need to search for still more ways to be reflective and interactive...more in-depth exploration of the topics which might make the contributions seem less disconnected from each other". The elective course suffered the most from this lack of "connection" as it was open to students who were not in the MCE and therefore had not been at the Spring Institute. Four of the five non-MCE students dropped out of the elective course, leaving the remaining students feeling sad and guilty about their departure.

3) Student reactions to on-line assignments and learning activities in each course varied a great deal. Out of necessity most were designed to be completed independently of the other

students or instructor, and those students who were not yet at the level of self-directedness required to be successful learning this way were uncomfortable with this challenge. While many found that the medium gave them more time for critical reflection and analysis, others wanted more interaction with and guidance from the instructor. A number of those who found learning how to be critically reflective in isolation especially difficult met in face-to-face learning groups. Eventually many learned from the on-line dialogue of students more advanced in this skill, but some were not able to adapt to the shift towards collaborative learning required over the time period of these courses.

4) How students, instructors and administrators dealt with technical problems that arose over the semester also varied; some students delved into the technical learning required and became technical resources to the rest while others learned the bare minimum to survive. It did not help that the software itself contained technical "bugs" that made simple tasks much more challenging, such as the inability to print more than one page or downloading and converting text sent as attached documents. The number and nature of technical problems were somewhat overwhelming at times, as instructors and administrators learned on an "ad hoc" basis how to deal with them as they arose. These and the natural limitations of communicating in this medium made this aspect of teaching/learning process one of the most problematic.

The Content of the Courses

These issues, directly related to the goal of ensuring that students' learning was at the "graduate" level, naturally fell into two categories: 1) breadth of course content, and 2) depth of course coverage.

1) Breadth of course content was a challenge because both were broad survey courses that took a multidisciplinary approach, requiring that students be exposed to a wide variety of basic theoretical perspectives. The instructors had to balance the need to ensure that students acquired a solid foundation of theoretical knowledge required at the graduate level, with the need to not overwhelm students with content (ie. readings). This student cohort came into the MCE program with a wide variety of academic backgrounds, which meant that it was necessary to build the required theoretical foundation for both courses from the "ground up".

2) Depth of course coverage, necessary at the graduate level, suffered from a low level of "interactive dialogue" on-line. This was perceived as a potential problem by both instructors who designed the assignments and learning activities with this issue in mind. In hindsight, however, neither felt that they had completely succeeded in creating the depth of dialogue desired.

B. Student Issues

The Process of Teaching/Learning

The data upon which this section is based was taken from: a mid- and final course evaluation questionnaire posted on-line (see Appendix B); individual discussions between students and instructors throughout the semester; students' learning journals submitted in both courses; and a group face-to-face discussion with fifteen of the twenty-four students held three weeks prior to the end of the semester.

Student issues on the process aspect of the courses fell into five categories: 1) the value of exploring each topic in relation to self, 2) concern about the perceived lack of "real" communication, that is interactive dialogue, amongst classmates, 3) the struggle to articulate/create their own "theories-in-use", 4) appreciation for the "democratization" effect of the CMC classroom, and 5) frustration with the numerous technical problems encountered and the amount of time and effort required to resolve them.

1) The value of exploring each topic in relation to self as a consequence of completing the assignments and learning activities was seen as perhaps the most important aspect of the courses, as well as particularly timely at this point in the MCE program. This theme arose in particular in responses to evaluation questions #1 & #3 ("I was most engaged in the course when examining my own career path in relation to the various (career) theories"; "That I am able to easily relate this academic leadership theory to a practical setting...at

work I find myself thinking...that is an appropriate use of power...I sense true respect, nurturing leadership traits".

2) The concern about the perceived lack of "real" communication amongst classmates, particularly between non-MCE students and full-time MCE students was evidenced in their repeated statements about feeling that messages were "contrived" or "not authentic", as well as in questions about how the drop-out of four of the five non-MCE students could have been prevented with better support from both classmates and instructor. This theme is typified in the common question "what is everyone thinking out there?" and in one students rather telling comment that she felt "all dressed up with nowhere to go" when she sent her painstakingly crafted messages to her classmates and waited days for a response. Related to this issue was a common feeling of "imposter syndrome" (Brookfield, 1986), or anxiety over the value or intelligence of one's individual contributions which once sent, were out there in stark print for everyone to examine and judge. On the other hand, they expressed a great deal of appreciation for the frequent and immediate feedback that this medium allowed them to receive from both classmates and instructors.

3) The struggle of students to articulate/create their own "theory-in-use", a key objective of each course, was accompanied by both anxiety ("Am I intelligent enough to do this?") and excitement ("The theory came alive for me when I had to think about what I agreed/disagreed with"). Related to this issue was the mental stretch required to become critical readers of the research literature, another key goal of both courses. Students

typically expressed appreciation for this aspect of the courses towards the end when "it all came together" for many. For example, students indicated in final evaluations that "I felt most engaged in what was happening when I was writing the final paper as it caused me to go back into the readings with a purpose and to read other materials and try to draw out conclusions." Another student said "completing my final paper... assisted me in reviewing my learning to date and consolidated ideas."

4) The students' appreciation for the "democratization" of the CMC classroom was evident as those who tended to hang back in traditional classrooms mentioned that they felt both the freedom to participate as fully as their more "verbose" classmates, as well as that their contributions were valued in an equal level. This seemed to be a function of students being able to take more time to reflect before responding, as the CMC environment allowed them to take hours or days to respond to messages/questions. One of the most valuable aspects of this "democratic" environment was the comfort level that many felt in taking on the role of "moderator" to lead discussions, which is not common in first year graduate face-to-face classes. Taking on the role of moderator was also cited as one of the most engaging aspects of the courses, appreciated as "the best way to really get to know the theory!".

5) The frustration with the numerous technical problems encountered and the amount of time and effort required to resolve them was particularly evident in the first few weeks of the courses but also continued throughout the semester. Individual student responses to

this issue varied, and while some perceived these problems as challenges, many perceived them to be barriers.

The Content of the Courses

These issues fell into three categories: 1) a struggle to understand different and much broader definitions of key concepts in both courses, 2) concern with the amount of time that it took to do justice to course content, 3) surprise with the complementarity and relevance of the two courses to their "back home" roles within their own organizations.

1) Students' struggle to understand different and broader definitions of "career development" and "leadership" concepts was a direct reflection of their entry level of knowledge in both topics. This matched the authors' data on students collected prior to the semester starting.

2) Their concern with the amount of time it took them to give sufficient thought to each course was reflected in the constant struggle to participate in all of the on-line conversations which required doing all of the readings required to take part in these conversations and completing all of the course assignments on time. This struggle was in the face of competing roles at home and work (two students became parents for the first time, one student's parent became gravely ill, and several students acquired major extra work tasks over the course of the semester). For the ten students who were taking both courses, the endeavour become too much at times and three required assignment extensions.

3) Their surprise with the complementarity of the two courses and of how relevant each was to their "back home" roles within their own organizations reflected their newness to the central focus of "workplace learning" and to the major theoretical foundations of this graduate program. All students expressed a great deal of appreciation for the course content in terms of both content and structure; they liked the instructional plan, that is the movement from a personal examination of theory in relation to self to relating the theory to their own organizational settings, and particularly liked the way that both courses focused on the application of theory to practice in the assignments and learning activities.

Instructor Reflections

Upon reflection and discussion with colleagues, the authors' conclude that they both agree and disagree with the current research on CMC; their experiences with CMC did not always coincide with the oft-cited benefits and challenges of teaching in this medium described in the introduction of this article.

Both instructors set up specific "on-line office hours", but found themselves checking their electronic mailboxes and various course conferences at least daily. The instructor of the core course spent an average of two hours an evening at home sending and responding to messages and assignments due to the sheer volume of communications with 24 students on-line. The non-synchronous nature of communication was often experienced as beneficial by instructors and students alike, as they could participate when it was convenient to their work and family schedules. The core instructor participated primarily in one-hour blocks

at various times in the evenings and on the weekends, and the elective course instructor participated in two to four hour blocks primarily during weekdays. While not all students took advantage of the convenience afforded by the non-synchronous nature of communication, those that did often made comments such as "despite occasional technical difficulties, the system is available as per my schedule" and "(I like) the flexibility of working on it when its convenient". While daily contact with students was initially necessary in order to provide on-line assistance with technical problems and encouragement to frustrated and confused students, eventually it became one method of fostering the sense of "connection" between students and instructors and both instructors (along with several students) became "on-line junkies".

The second cited benefit of increased interactive dialogue between/amongst students and instructors did not appear to happen as fully as hoped, although this aspect was difficult to objectively assess, as both were first time courses. On the contrary, the instructors were disappointed with the nature of the interactive dialogue, as they had carefully structured assignments and learning activities with this aspect of the medium in mind. There was a higher level of on-line dialogue in the core course than in the elective course, which may have been at least partially due to the fact that all students in the core course had met face-to-face in the Spring Institute. The lower level of on-line dialogue may have also been partly due to an "imposter syndrome" that emerged for the students who had not met any of their on-line classmates. These factors and the normal feelings of inadequacy and isolation common to many first year graduate students, exacerbated by the medium, may

have all contributed to the lower level of on-line dialogue in the elective course. As well, all students' orientation to the software program did not, in hindsight, sufficiently prepare them for a CMC environment. The amount of interactive dialogue between students and instructors was, however, quite high, as many students took advantage of the ease of accessing instructors through CMC to spend considerable time communicating in various ways, such as through the private mailbox or chat function, throughout the semester. It will be interesting to observe in future CMC courses if there are differences in overall learning and attitude towards this aspect of the program between those students who learned to effectively use the medium early in the program and those who did not.

In retrospect, the quality of learning did not appear to suffer from the lower than expected level of interactive dialogue, as the overall quality of submitted assignments compared favourably to first year graduate level work. Many students completed the assignments in small groups, either face-to-face or on-line and this team approach undoubtably effected the quality of the term work. It is also possible that the lower level of on-line interactive dialogue in the elective course was effected by this behind the scenes "real" dialogue; perhaps the on-line dialogue would have been higher if students did not have the option of more familiar and comfortable face-to-face interaction. The nature of the on-line discussion/dialogue was positive for many, as it allowed them increased "time to think" and edit their responses before sending them, a point made often in the evaluation data. For example, one student stated "I am usually rather quiet in formal classroom settings tending to listen more to others' comments rather than offer my own, as I like to reflect on my

thoughts prior to announcing them. This medium allows me the time to reflect before commenting and so I find it easier to comment than I might in a classroom setting". Students' expressed attitude toward the CMC environment, while quite mixed at mid-point in the semester (many disliked the lack of human contact), became noticeably more positive towards the end of the semester as many expressed much appreciation for the "democratizing" effect that it had on the discussions.

Both students and instructors appreciated the written record of responses though for quite different reasons; while students appreciated the ability to review previous discussions, instructors appreciated the ability to check participation levels on the various on-line discussions. Students were also able to easily access other resources such as a librarian dedicated to the program, conduct literature searches on-line, and access to the university library's entire on-line catalogue.

A key challenge of teaching in CMC in the authors' experience certainly was the technical difficulties associated with piloting a new and not entirely bug-free CMC software package, as well as shepparding a student group largely unfamiliar with any CMC learning environment through their first semester of learning with this system. Secondly, the amount of time required to do justice to a CMC course was a major frustration and source of conflict for students (especially those who took both classes at once) and instructors (especially for the core course instructor who had 24 students). Lastly, learning to communicate without the benefit of visual cues proved very challenging for students and

instructors not used to the intricacies of on-line jargon/etiquette. One instructor was very grateful for the positive and patient attitude of the student whom she offended early on in her course by posting what should have been a private message to the entire class. Through true interactive dialogue, this instructor and student were able to learn a great deal about the effect that their individual communication styles have on-line and about how to change these styles to accommodate for the lack of visual cues. Keeping track of conversations on-line also often meant reviewing previously posted messages, another very time consuming and tedious activity. Another challenge was in the formatting and grammar of submissions; in order to keep up with the on-line dialogue, students often did not follow the basic rules of writing, such as use of paragraphs, capitalization and proper punctuation. While a mild frustration for most, a few students expressed their annoyance with comments such as "How poorly some people write! At the risk of being the kettle calling the pot black, I am dismayed!" and "I am appalled by those people who submit pieces with little attention to capitalization, punctuation, grammar and proof reading...I don't have time to decipher!".

Summary

In the process of teaching the first two computer mediated courses in an innovative graduate program in continuing education, a number of issues arose for both instructors and students that resulted in valuable new learning about how to teach in this medium. Among these was an appreciation of the critical importance of building a "learning community" for the creation of a successful virtual classroom.

The authors found that the particular benefits and challenges that they faced were both similar to, and different from, those faced in regular classroom teaching. Perhaps the most unique challenges in the CMC classroom were the technical ones, the increased time required to process written messages and to develop in-depth dialogue, that is the skills of synthesizing the contributions of other classmates to bring forward new insights/conclusions within a creative and collaborative learning environment. While the creation of a collaborative "learning community" is not unique to CMC, building one on-line does require a different approach.

The concept of "learning community" began to emerge in adult education with Malcolm Knowle's (1980) introduction of the concept of learning climate and the idea that environment effects learning. Writings and research on the building of "learning communities" on-line have just begun to appear in adult education literature, representing the unusual but inevitable partnership of computer technology and adult education. While some are expressing strong reservations about the viability of this "pairing" others are very enthusiastic about its creative potential. The authors of this article believe that in order for this anomalous partnership to work, there needs to be tremendous investment and support given to it by all stakeholders; administrators, instructors and students.

Recommendations

From their experiences piloting two CMC courses within the context of an innovative graduate program, the authors make the following recommendations to administrators, instructors and students on how to better facilitate the building of a successful "virtual learning community":

1. administration - expert technical support is absolutely critical before, during and after the learning event takes place. As well, because many distance students work on their courses after regular working hours, technical support must be available on off hours, preferably late into the evening and during weekends. It would also be advantageous for administrators to plan for the incorporation of other complementary distance technologies into the learning event, such as audio and video conferencing, to offset the lack of face-to-face non-verbal cues.

2. instructors - learning how to create an inclusive learning environment and to teach collaboratively is critical to the success of any learning event, but is especially important when the students and instructors do not have face-to-face contact. This attitude of collaboration needs to start prior to the learning event by finding out about students' learning needs and preferences in the initial program planning phases of course design. As well, collaboration needs to extend into the analysis phase, information about what worked and did not work to facilitate the learning process is gathered from learners and instructors.

3. students - must become self-directed learners if they are to succeed in this learning environment; and the aspect of self-directed learning that is most critical involves learning how to learn collaboratively. As well, students must learn to respect and tolerate their evolving sense of self as learners in this journey by adopting an attitude of openness to new ways of learning, as well as skills in "learning to learn". It is imperative that students must possess a measure of skill and comfort with CMC, and especially on-line discourse, prior to entering a program that relies on this technology.

4. an overall team approach amongst all stakeholders is essential if a "learning community" is to be successfully created. All stakeholders have a role in creating and maintaining an inclusive and positive learning environment where students, instructors and administrators feel valued for their contributions and respected for their roles in the teaching/learning process. The program planning process needs to include representation from all stakeholder groups from the beginning stages if the learning event is to be successful in meeting the needs and expectations of all involved.

In the process of sharing their experiences developing and teaching these first two computer mediated courses in this new graduate program, the authors realize that they may have raised more questions than they have answered. It is their intention to continue a "collaborative learning dialogue" with their students and colleagues, as they gain experience and expertise in building successful computer mediated learning environments.

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Appendix A: Abbreviated Course Syllabi

CTED 655: Leadership in Organizations (Core Course)

Description

Theories of leadership from past to present will be explored to assist in understanding the central role of leadership in organizations. Leadership will be examined in the broader context of the accomplishment of group purpose to illuminate aspects of the subject that will be of use in facing dilemmas of leading and learning in today's workplace. Emphasis is on individuals critically examining leadership theories in order to construct a practical and personal working model of leadership. Aspects of culture, power, politics and decision-making, diversity and followership will be included.

Objectives

1. to provide opportunities to critically examine and reflect upon personal leadership experiences and conceptualizations,
2. to become familiar with the research literature on leadership and how to analyze it,
3. to understand the various ways in which leadership is practised,
4. to gain insights to enhance leadership capabilities and opportunities.

Weekly Conferences/Topics

1. Team leader/reviewer - discussion of weekly assigned readings led by one student and summarized by another; each student is required to post a comment (max of 2 screens).
2. Pairs article review - discussion of assigned article led and summarized by student pairs; each student is required post a comment (max of 2 screens).
3. Instructor's notes - general comments and directions from instructor to students.
4. Reflections - extended discussion/comments regarding any of the assigned readings.
5. Cafe - open discussion/comments not related to any weekly conference/topic.
6. Assignments - 5 conferences organized questions on each of the five assignments.
7. Personal stories - set up prior to the course as a way of getting acquainted with each other.

Assignments

1. Personal journal (15%) - once a week posting with a summary submitted at end.
2. Reflective paper (15%) - three personal leadership stories of 2 pages each.
3. Article review & discussion in pairs (20%) - presentation of review of selected articles.
4. Final paper (35%) - incorporating research & practice on a specific topic (20 pages).
5. Weekly participation (15%) - once a week contribution and role as team leader/reviewer.

CTED 681.01: Career Development in Organizational Settings

Description

This course will examine key concepts and current practices in career development from both an individual and organizational perspective. The focus will be on how to co-ordinate organizational career management practices to accommodate the needs of individual within the organization. This course will explore a number of aspects of career development within an organizational context and encourage students to take an interdisciplinary/transdisciplinary approach to understanding career behaviour. It is intended to merely introduce students to the multitude of possibilities for theory-building and subsequent application to practice inherent in the interaction between the fields of individual and organizational career development.

Objectives

1. to become familiar with the main individual career development theories,
2. to understand the "development" approach to career development, from both an individual and organizational perspective,
3. to critically examine how individual and organizational career processes interact,
4. to develop their own "theory-in-use" of career development within organizational settings, and
5. to develop an organizational career development plan based on objective #4.

Weekly conferences/topics

1. Our Own Stories - discussions on students' "Autobiographies" (see #5).
2. Theory - discussions of key theories of individual career development, its transdisciplinary nature.
3. Practice - discussions of how these key concepts applied to students own organizational settings, as well as specific other issues in the fields (eg. career transition, career anchors, self-designing organizations, diversities with organizations).
4. Cases - discussions of each students' organizational career development plan as it evolved throughout the last four weeks of the course.
5. Autobiography - pre-course assignment containing a short autobiographical sketch of each students' career path to date.
6. Assignments - discussions of each of the 4 assignments.
7. Mid-term evaluation - answers to the 7 questions contained in Appendix B.
8. Coffee - open comments and discussions not related to any weekly conference/topic.

Assignments

1. Learning journal (15%) - once a week posting with a summary submitted at end.
2. Critical reflections (20%) - 5 critical reviews of current articles/book chapters.
3. Weekly participation (20%) - minimum of once a week postings plus role as student moderator for one week.
4. Case study project (45%) - organizational career development plan.

Appendix B: Mid - and Final Evaluation Questionnaire

1. At what moment in the course to date have you felt most engaged in what was happening?
2. At what moment in the course to date have you felt most distanced from what was happening?
3. What action that anyone (instructor or student) took in the course to date have you found the most affirming or helpful?
4. What action that anyone (instructor or student) took in the course to date have you found most puzzling or confusing?
5. What about the course to date has surprised you the most? (this could be something about your own reactions to what went on, something that someone did, or anything else that occurred to you).
6. Overall, as you think about the course to date, what have you like the best?
7. Overall, as you think about the course to date, what changes do you think would make it better for you?

(Source: Brookfield, 1994)